

TRANSLATION

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>P 424</b>	<b>FOR FURTHER ACTION</b> See Form PCT/PEAA/16	
International application No. <b>PCT/EP2004/013874</b>	International filing date (day/month/year) <b>06.12.2004</b>	Priority date (day/month/year) <b>19.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>G01 D11/24 H03K17/95</b>		
Applicant <b>PEPPERL + FUCHS GMBH</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 6 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in Item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only: as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the JPL/A/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013874

Box No. 1 Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-27 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 2-8, 10-13, 15-22, 24-30 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1, 9, 14, 23 \_\_\_\_\_ received by this Authority on 14.10.2005 with letter
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/8-8/8 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(e)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "amended."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013874

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims 1-30	YES
	Claims	NO
Inventive step (IS)	Claims 1-30	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-30	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

## 1. Reference is made to the following documents:

- D1: DE 198 08 153 A1 (IFM ELECTRONIC GMBH),  
2 September 1999 (1999-09-02)
- D2: US-B1-6 617 845 (SHAFIYAN-RAD SAEED ET AL),  
9 September 2003 (2003-09-09)
- D3: DE 88 05 837 U1 (NEUGART, RUDI, 7715  
BRAEUNLINGEN, DE), 23 June 1988 (1988-06-23)
- D4: US-A-6 025 562 (SHIMIZU ET AL), 15 February 2000  
(2000-02-15)
- D5: FR-A-2 620 222 (TELEMECANIQUE ELECTRIQUE),  
10 March 1989 (1989-03-10)

2. NOVELTY

- 2.1 Document D1, which is considered to be the prior art closest to the subject matter of claim 1, discloses the following (the references in parentheses are to D1):

Method for producing a switching device (column 1, lines 3 to 9),

- having a sensor unit arranged on a measuring end of a casing sleeve (column 1, lines 55 to 59)

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/013874

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

and connected to an electronic circuit which is mounted on a support contained in the casing sleeve (column 3, lines 27 to 31),

- and having a connection piece on a back end of the casing sleeve (see figure 3, component 8),
- the sensor unit, the support and the connection piece being grouped to form a dimensionally stable assembly together with a screening sleeve that surrounds the support (column 3, lines 8 to 16),
- the assembly being introduced into and securely housed by the casing sleeve (column 2, lines 34 to 42).

2.2 The subject matter of claim 1 differs from the known circuit arrangement in that the screening sleeve is electrically connected to the support to provide screening against electromagnetic radiation.

2.3 The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

2.4 The features of device claim 23 correspond to those of method claim 1. The subject matter of claim 23 is therefore also novel (PCT Article 33(2)).

### 3. INVENTIVE STEP

3.1 The problem addressed by the present invention can thus be seen as that of devising a simple method for producing a switching device that has screening against electromagnetic radiation.

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International application No.

PCT/EP2004/013874

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- 3.2 The solution proposed in claim 1 of the application involves an inventive step (PCT Article 33(3)) for the following reasons:

Documents D1 to D5 relate to switching devices that have a sensor unit, a support and a connection piece mounted in a casing sleeve. None of these documents describe or suggest a screening sleeve which surrounds the support and is electrically connected to the support to provide screening against electromagnetic radiation.

The subject matter of claim 1 therefore involves an inventive step (PCT Article 33(3)).

- 3.3 The features of device claim 23 correspond to those of method claim 1. The subject matter of claim 23 therefore also meets the PCT requirements relating to inventive step.
- 3.4 Claims 2 to 22 are dependent on claim 1, and claims 24 to 30 are dependent on claim 23, and therefore also meet the PCT requirements in respect of novelty and inventive step.

4. INDUSTRIAL APPLICABILITY

- 4.1 Claims 1 to 30 meet the requirement of PCT Article 33(4).